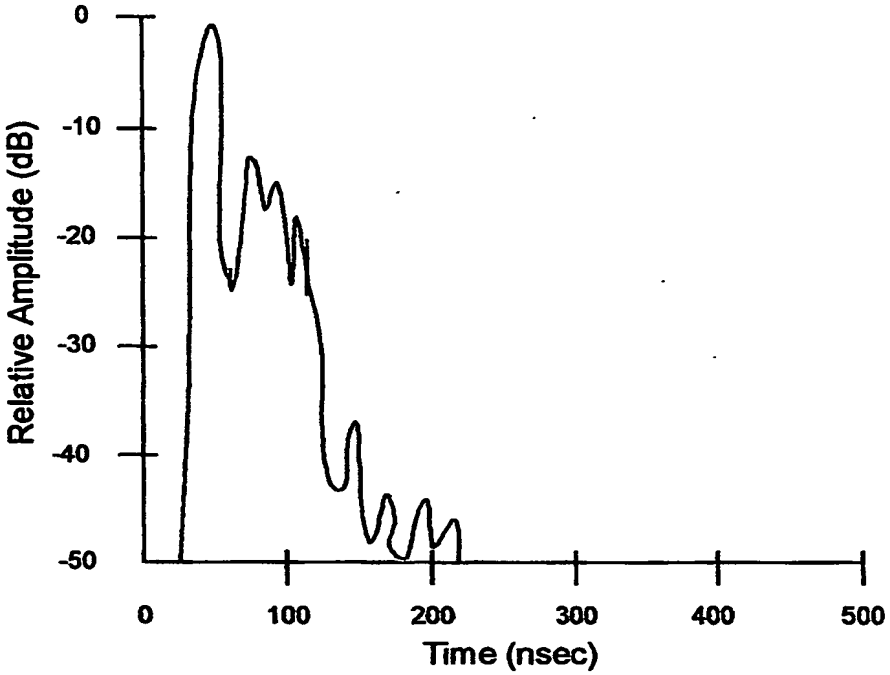

FIGURE 1A

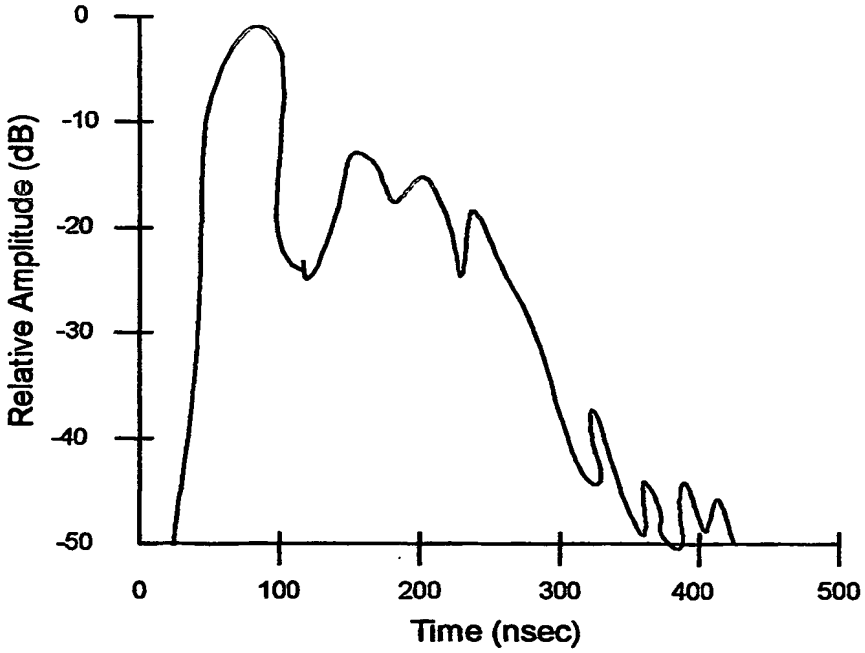

FIGURE 1B

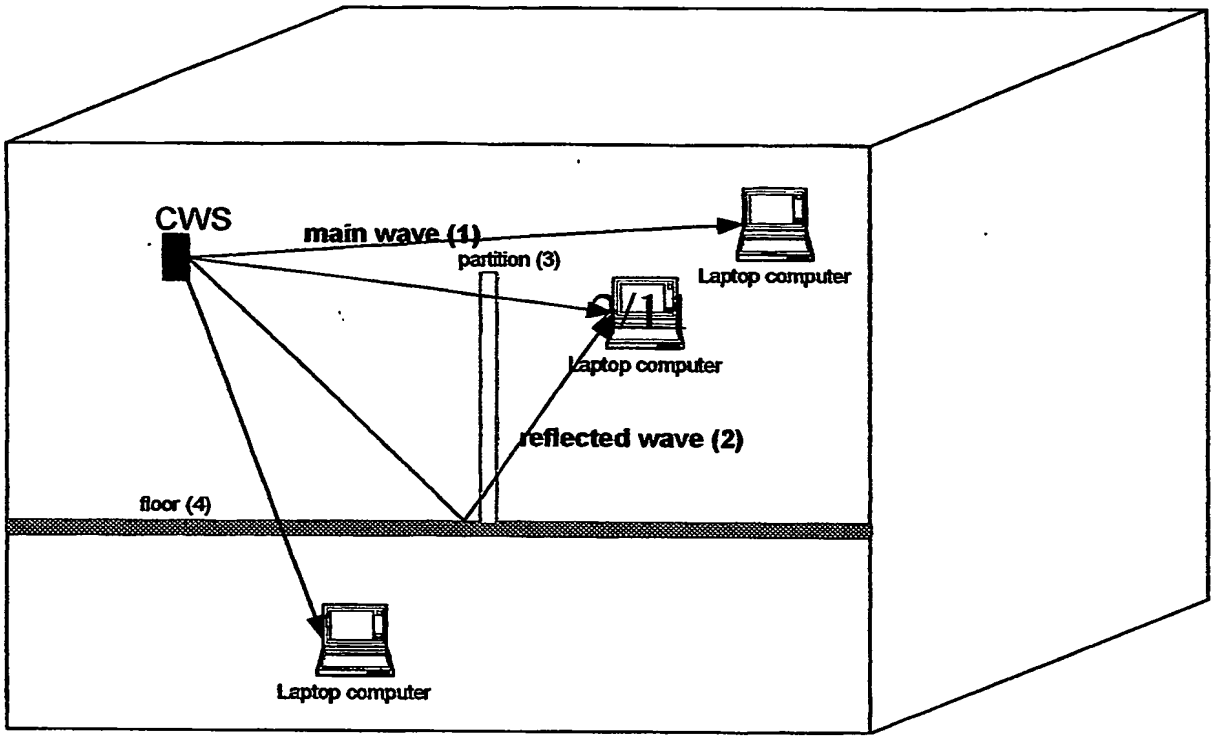

FIGURE 2

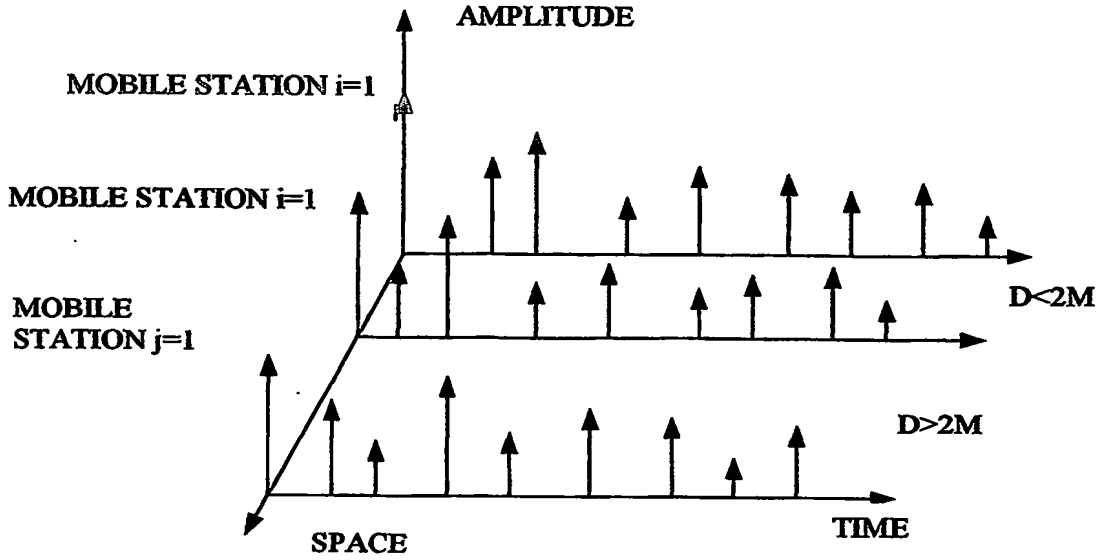

FIGURE 3

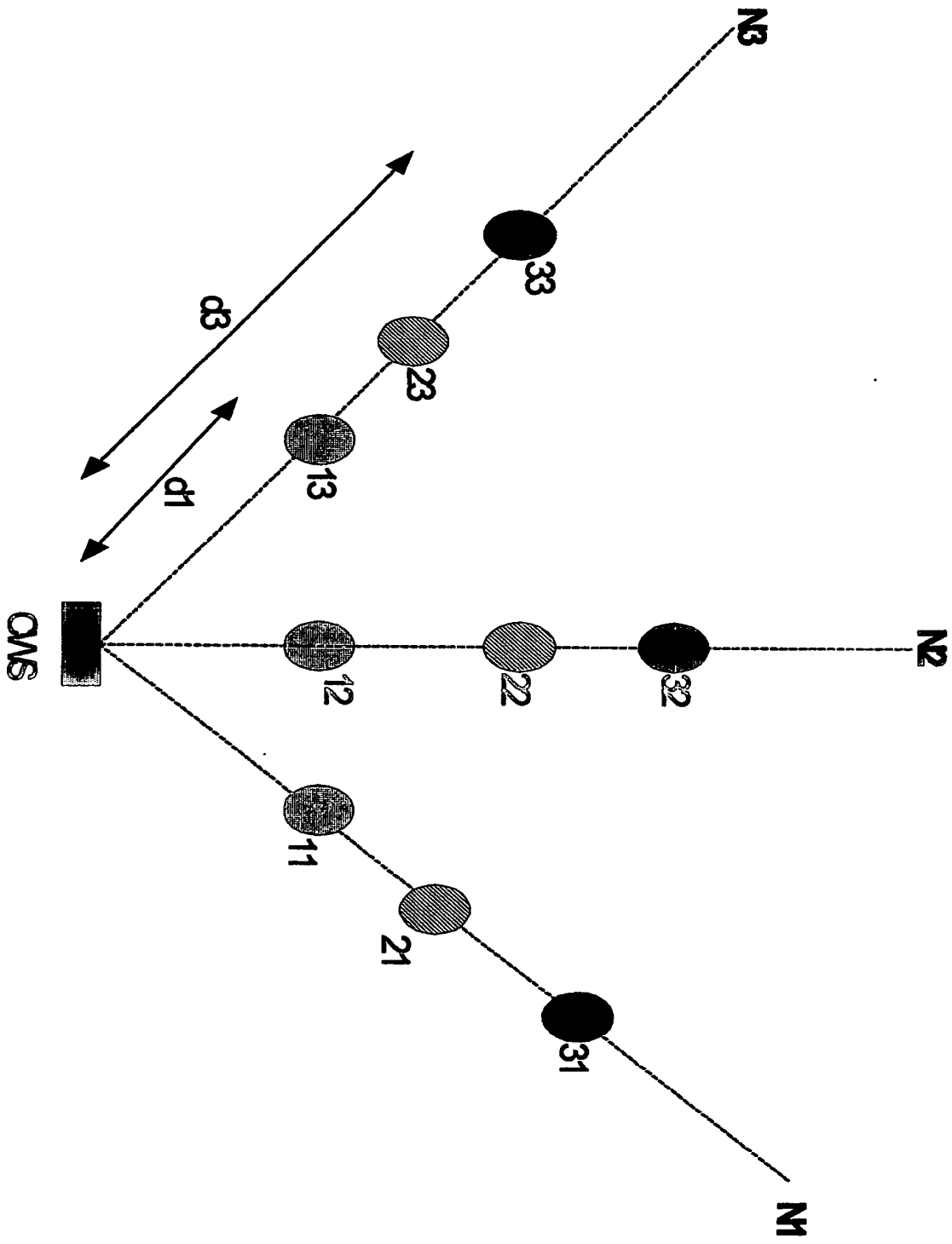

FIGURE 4

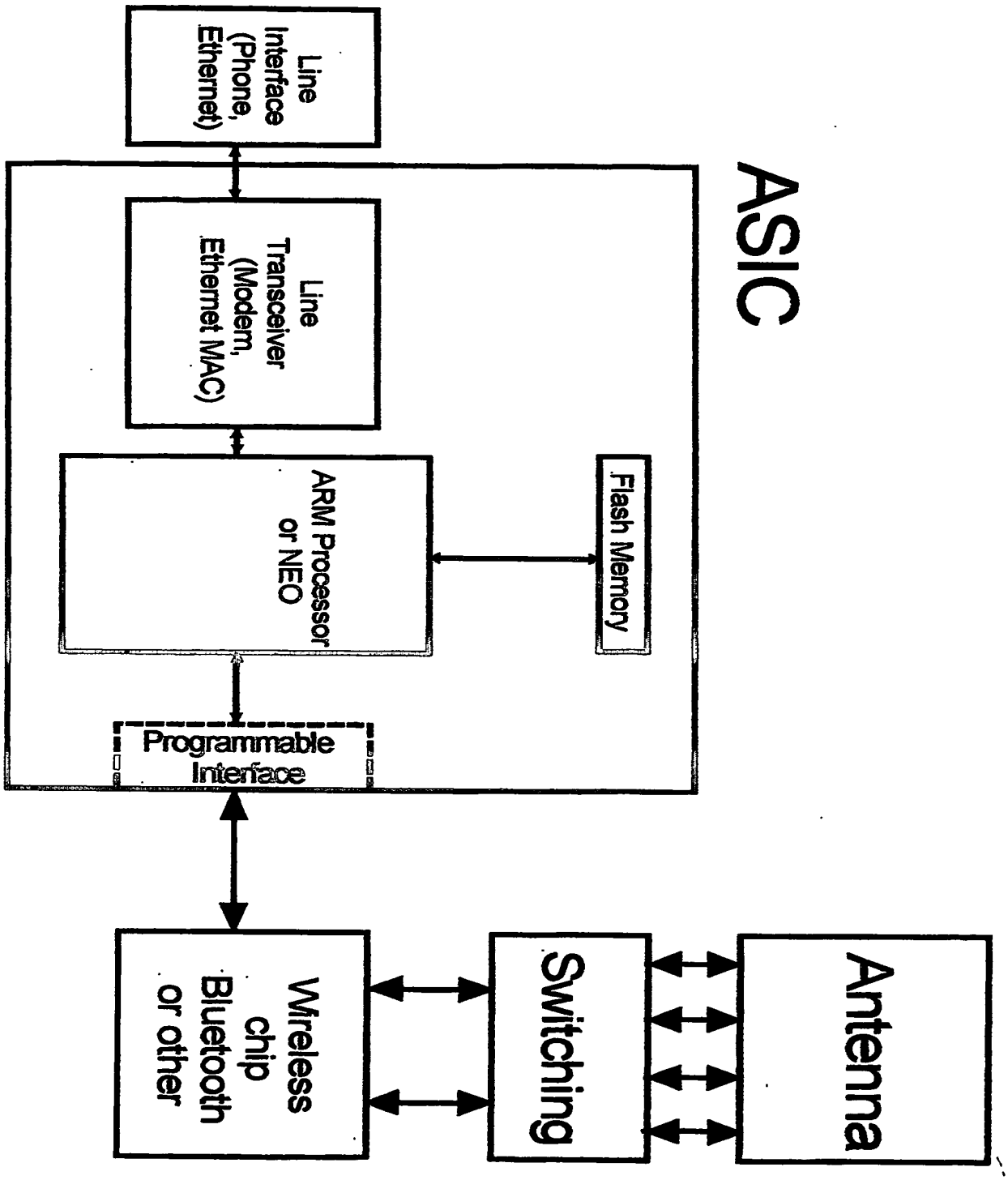
Line Interface (Phone, Ethernet)
ASIC
Line Transceiver (Modem, Ethernet MAC)
ARM Processor or NEO
Flash Memory
Programmable Interface
Wireless chip Bluetooth or other
Switching
Antenna

FIGURE 5

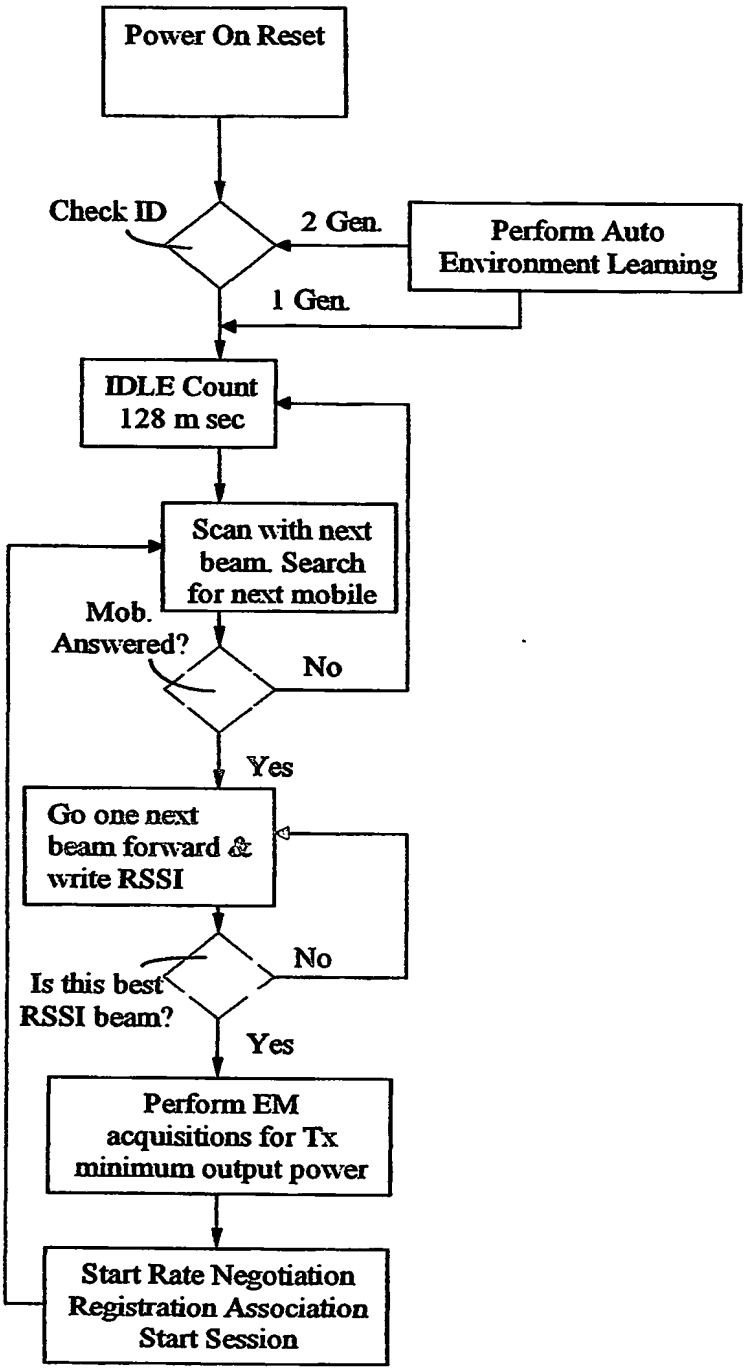
Power On Reset
Check ID
2 Gen.
Perform Auto Environment Learning
1 Gen.
IDLE Count 128 m sec
Scan with next beam. Search for next mobile
Mob. Answered?
No
Yes
Go one next beam forward & write RSSI
No
Is this best RSSI beam?
Yes
Perform EM acquisitions for Tx minimum output power
Start Rate Negotiation Registration Association Start Session

FIGURE 6

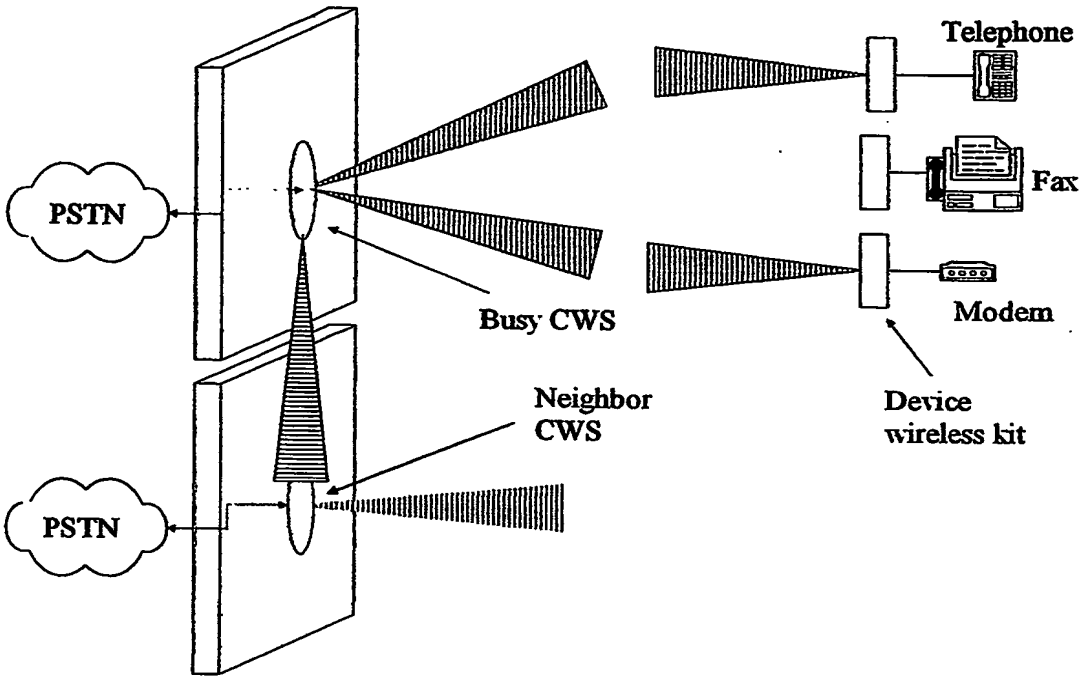
Telephone
Fax
Modem
PSTN
Busy CWS
Neighbor
CWS
Device
wireless kit
PSTN

FIGURE 7

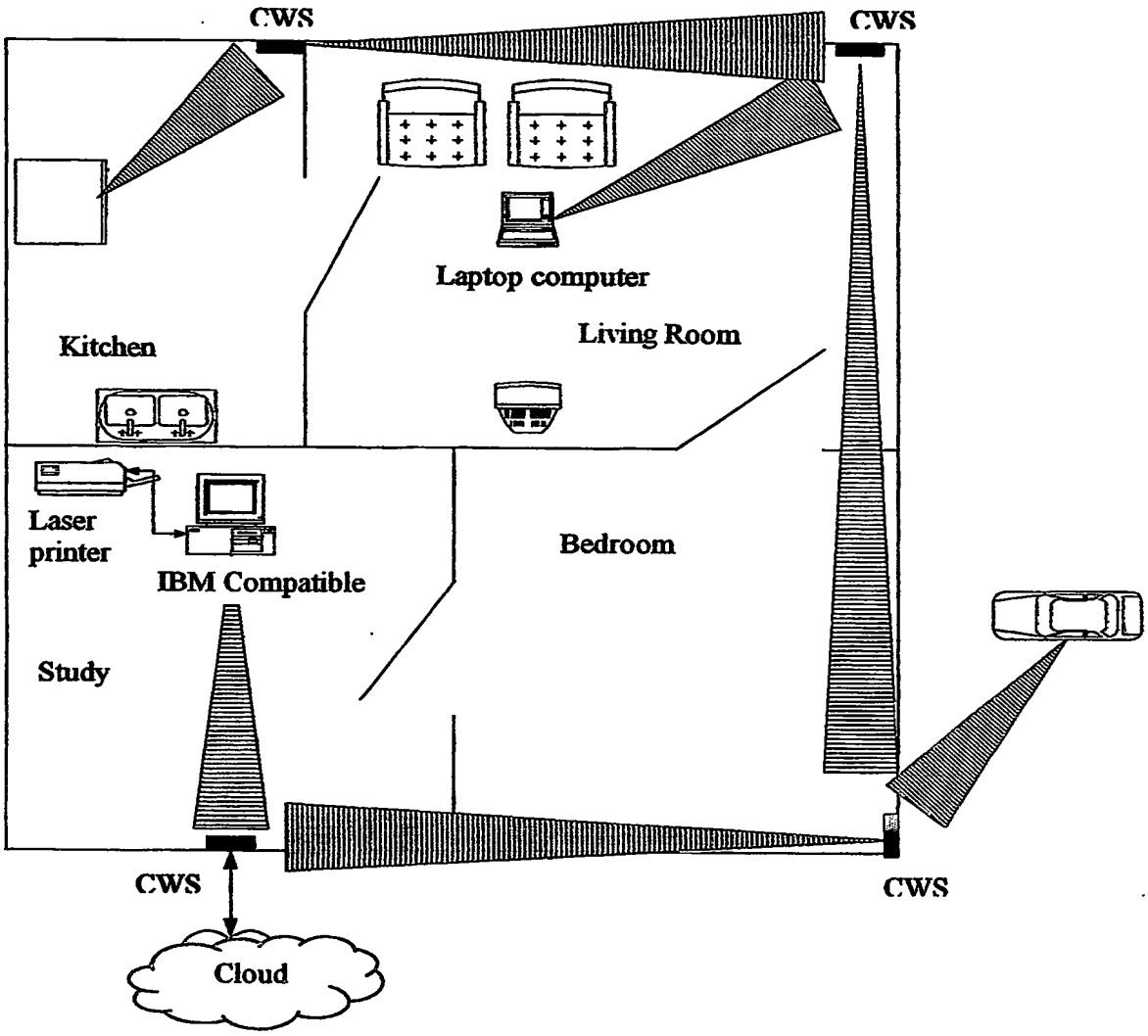
CWS
CWS
Laptop computer
Kitchen
Living Room
Laser
printer
IBM Compatible
Bedroom
Study
CWS
CWS
Cloud

FIGURE 8

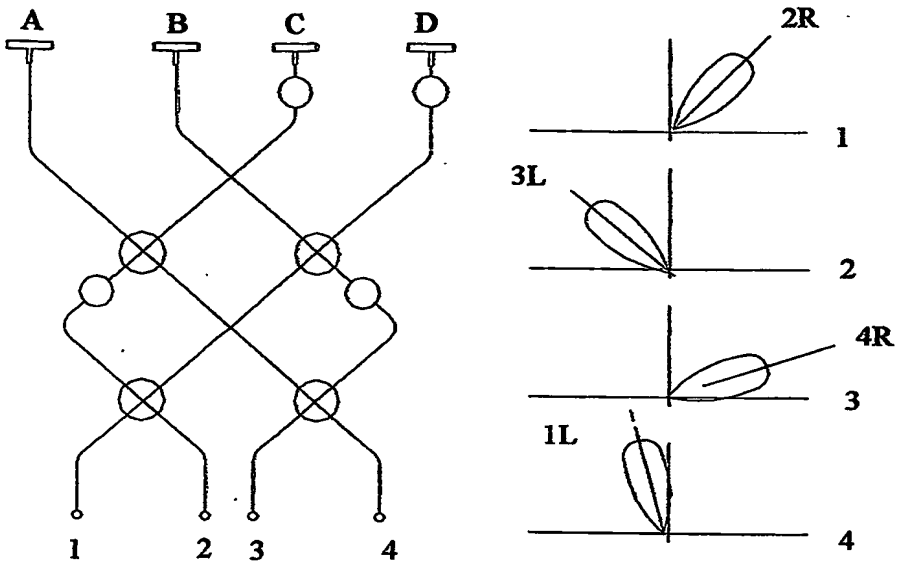

FIGURE 9

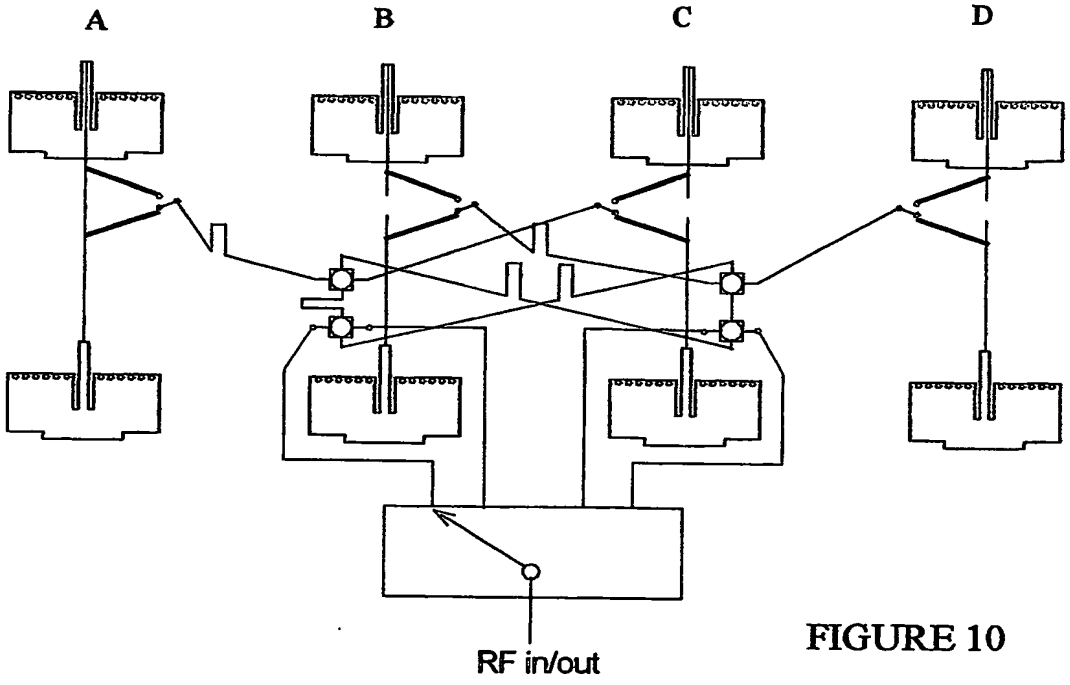

FIGURE 10

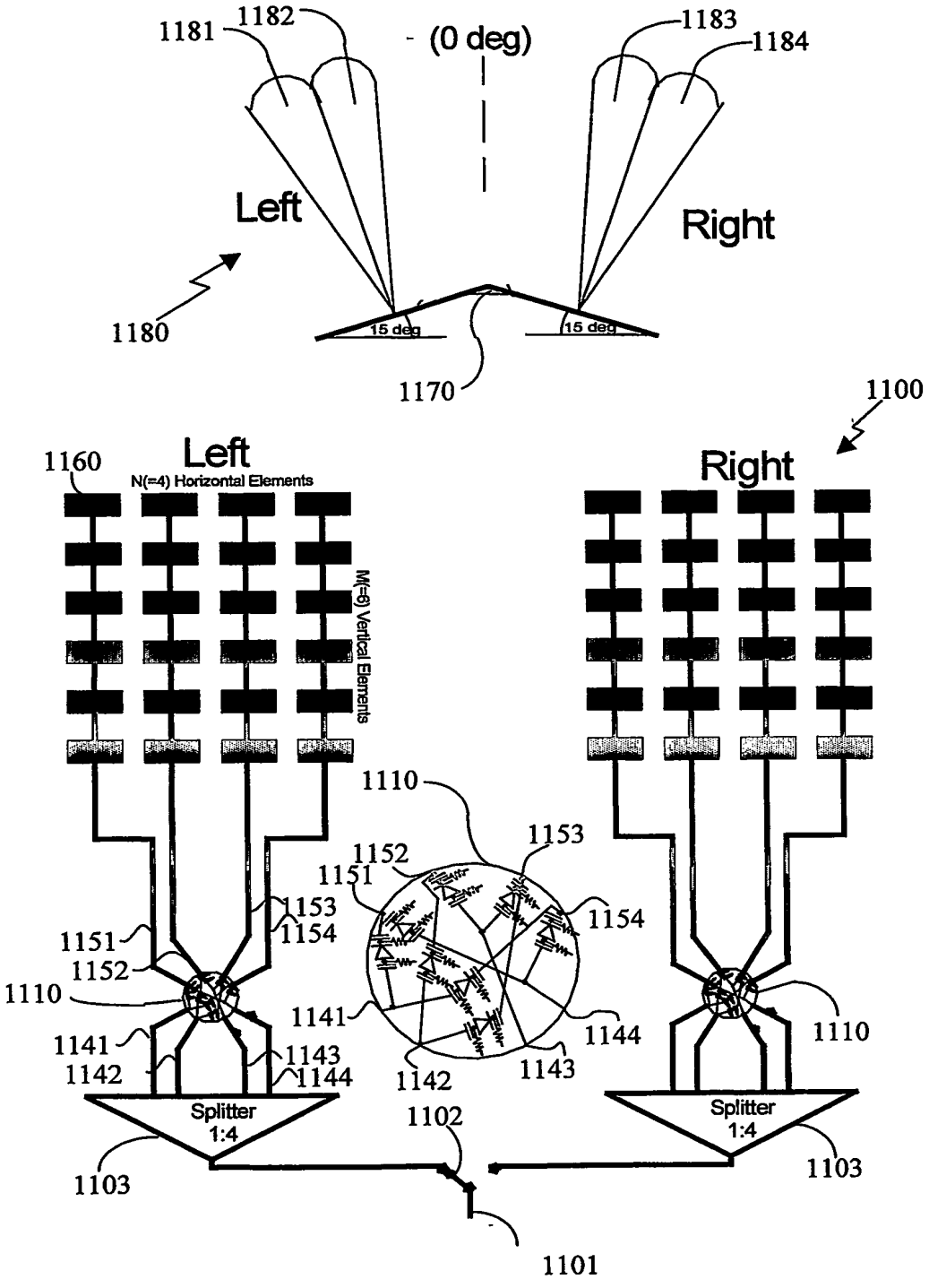
1181
1182
(0 deg)
1183
1184
Left
Right
1180
15 deg
15 deg
1170
1100
1160
Left
N(=4) Horizontal Elements
Right
M(=6) Vertical Elements
1110
1152
1151
1153
1154
1151
1152
1110
1153
1154
1141
1144
1141
1142
1143
1144
1142
1143
1110
Splitter
1:4
Splitter
1:4
1102
1103
1103
1101

FIGURE 11

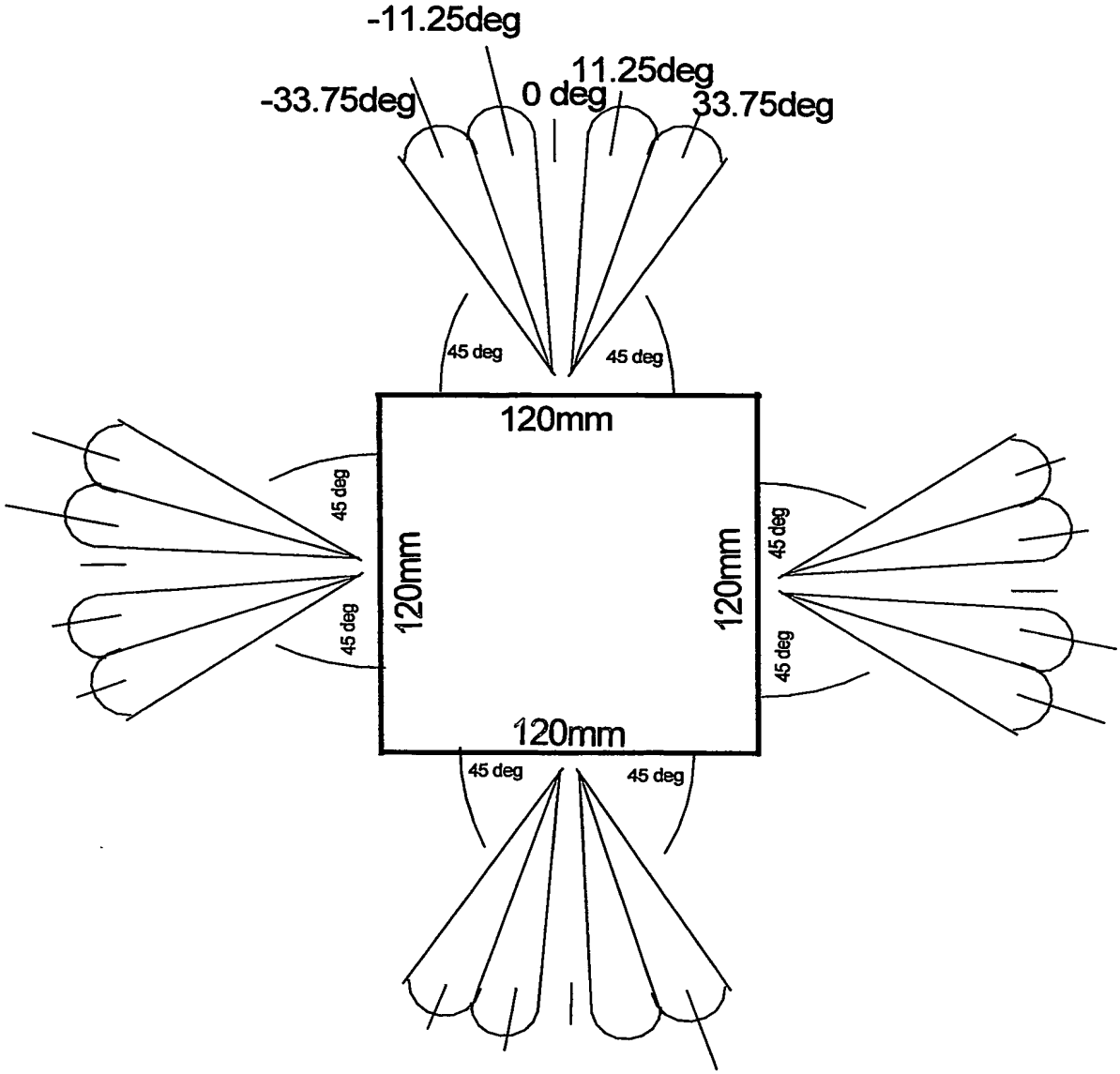
-11.25deg
-33.75deg
0 deg
11.25deg
33.75deg
45 deg
45 deg
120mm
45 deg
45 deg
120mm
120mm
45 deg
45 deg
45 deg
45 deg

FIGURE 12

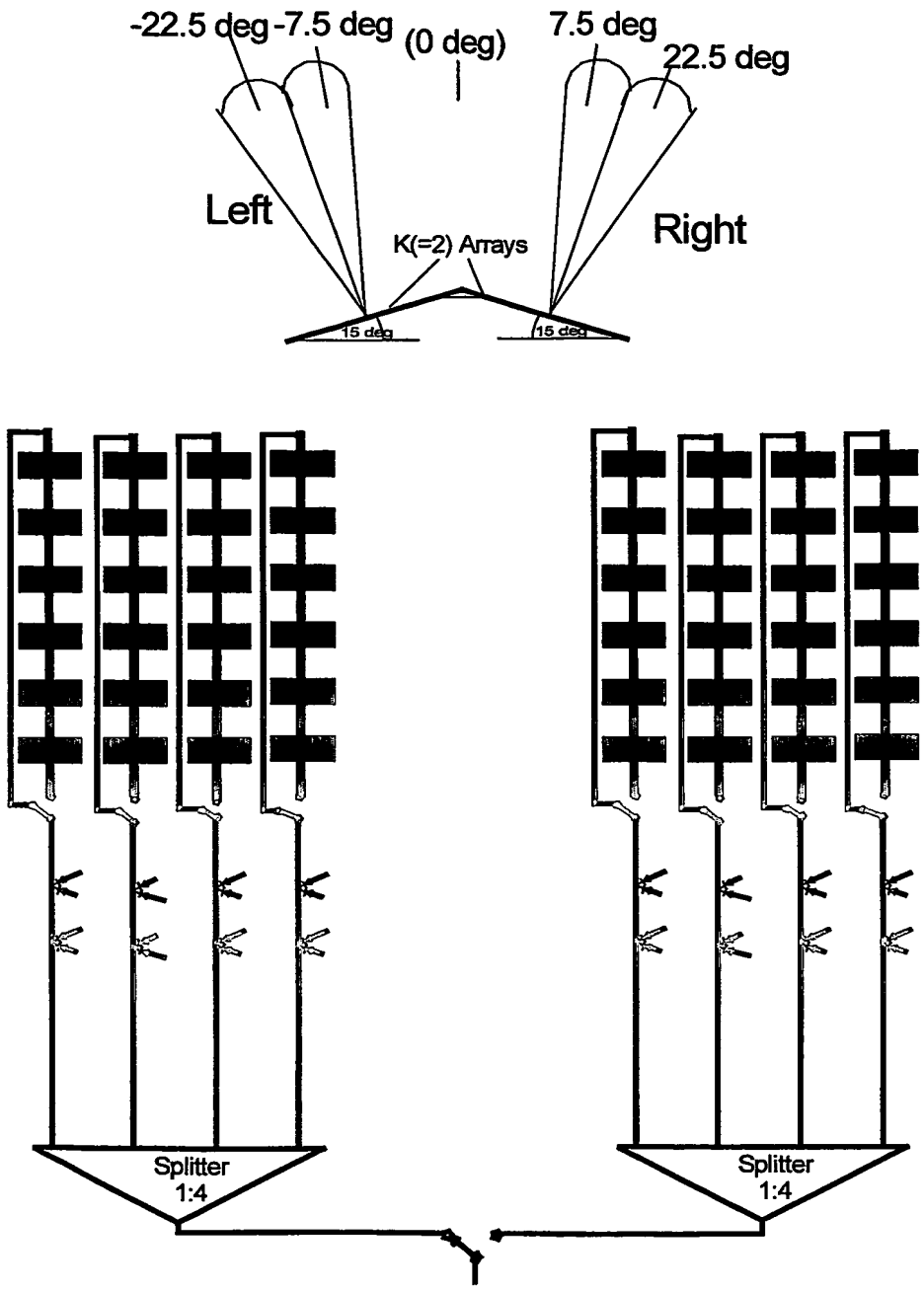
-22.5 deg
-7.5 deg
(0 deg)
7.5 deg
22.5 deg
Left
Right
K(=2) Arrays
15 deg
15 deg
Splitter
1:4
Splitter
1:4

FIGURE 13